

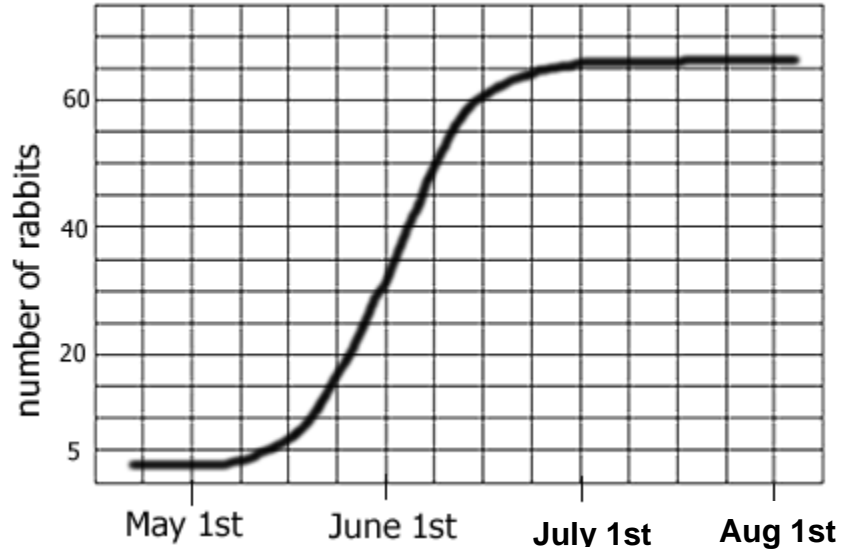
Interpreting Ecological Data

Graph 1: Rabbits Over Time

a. What type of curve does the graph show?

b. The carrying capacity for rabbits in this environment is...

c. During what period of time does it appear that the rabbits were in exponential growth?



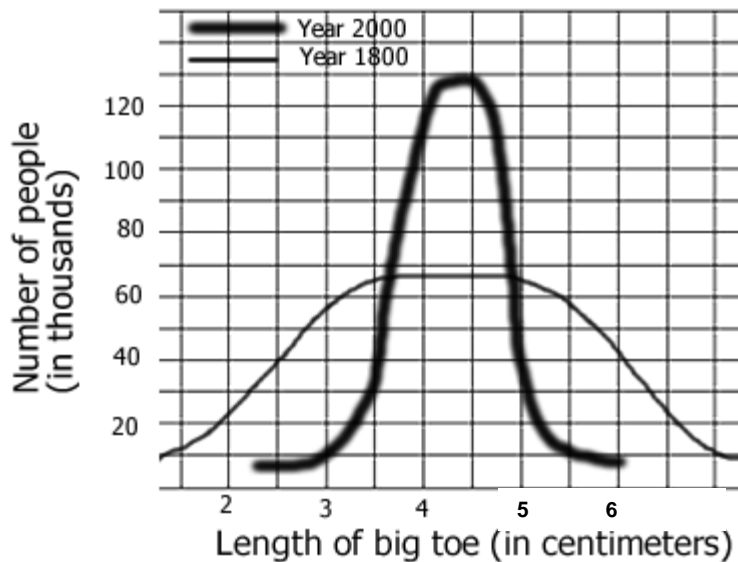
Graph 2: Average Toe Length

a. In 1800, about how many people surveyed had a 3 cm toe?

b) How many in 2000? _____

c) In 1800, what was the largest big toe size recorded?

d) What was the largest in 2000?



Graph 3: Mexico and US

a. In Mexico, what percentage (males + females) of the population is between 0-4 years of age?

b. In the US? _____

c. Which countries population is growing the fastest?

d. Which age group has the *smallest* number in both countries?

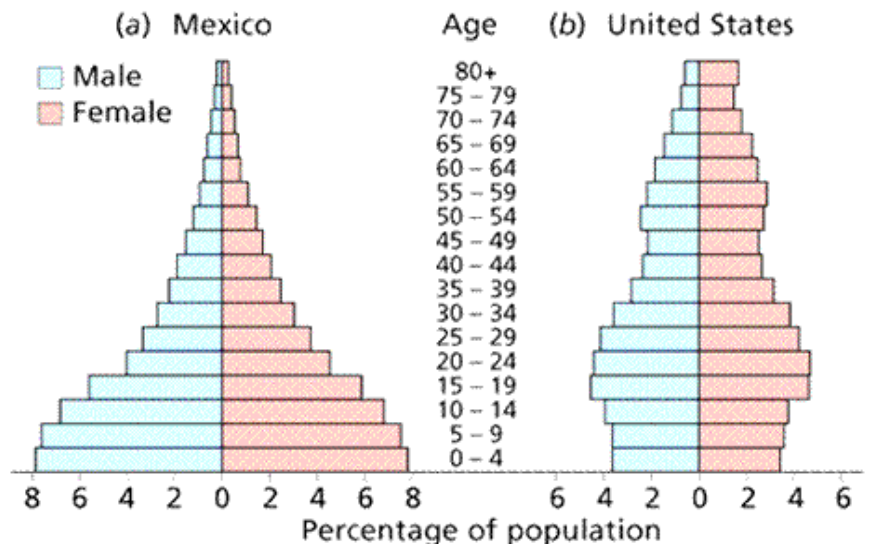


Chart 4: Trapping Geese

In order to estimate the population of geese in Northern Wisconsin, ecologists marked 10 geese and then released them back into the population. Over a 6 year period, multiple geese were trapped and their numbers recorded.

Year	Geese Trapped	Number with Mark
1980	10	1
1981	15	1
1982	12	1
1983	8	0
1984	5	2
1985	10	1

a. Use the formula below the chart to calculate the estimated number of geese in the area studied?

b. This technique is called:
_____ & _____

c. Supposing more of the geese found in the trap had the mark, would the estimated number of geese in the area be greater or lesser?

$$\frac{(\text{Total number captured}) \times (\text{number marked})}{(\text{total number recaptured with mark})}$$

Chart 5: Mushroom Plots

Another ecologist uses a different method to estimate the number of mushrooms in a forest. She plots a 10x10 area and randomly chooses 5 spots, where she counts the number of mushrooms in the plots and records them on the grid.

		5					2
3							
		2				3	

a. What method of sampling is this scientist using?

Calculate the number of mushrooms in the forest based on the grid data.

b. What is the average of the 5 plots recorded?

c. What is the number of mushrooms estimated on this plot of land? (multiply average times 100 boxes)

Chart 6: Snakes & Mice

The data shows populations of snake and mice found in an experimental field.

a. During which year were the mice essentially at zero population growth? _____

b. What appears to be the approximate carrying capacity for the snakes ? _____

c. What appears to be the approximate carrying capacity for the mice? _____

d. What is the rate of growth (+/-)for mice...
During 1970? _____
During 1980? _____

Year	Snakes	Mice born	Mice died
1960	2	1000	200
1970	10	800	300
1980	30	400	500
1990	15	600	550
2000	14	620	600
2001	15	640	580

